Macular Edema
Contents

VII List of Contributors
XI Preface
Coscas, Gabriel (Créteil, Paris)

1 Macular Edema: Definition and Basic Concepts
Coscas, Gabriel (Créteil, Paris); Cunha-Vaz, José (Coimbra); Soubrane, Gisèle (Créteil, Paris)

10 General Pathophysiology
Augustin, Albert (Karlsruhe); Loewenstein, Anat (Tel Aviv); Kuppermann, Baruch D. (Irvine, Calif.)

27 Diagnosis and Detection
Staurenghi, Giovanni; Invernizzi, Alessandro; de Polo, Laura; Pellegrini, Marco (Milan)

49 Macular Edema – Rationale for Therapy
Wolfensberger, Thomas J. (Lausanne); Gregor, Zdenek J. (London)

59 Drug Delivery to the Posterior Segment of the Eye
Kuppermann, Baruch D. (Irvine, Calif.); Loewenstein, Anat (Tel Aviv)

73 Diabetic Macular Edema
Bandello, Francesco; Battaglia Parodi, Maurizio (Milan); Lanzetta, Paolo (Udine); Loewenstein, Anat (Tel Aviv); Massin, Pascale (Paris); Menchini, Francesca; Veritti, Daniele (Udine)

111 Retinal Vein Occlusions
Jonas, Jost (Mannheim); Paques, Michel (Paris); Monés, Jordi (Barcelona); Glacet-Bernard, Agnès (Créteil, Paris)

136 Cystoid Macular Edema in Uveitis
de Smet, Marc D. (Lausanne/Amsterdam/Ghent); Okada, Annabelle A. (Tokyo)

148 Postsurgical Cystoid Macular Edema
Loewenstein, Anat; Zur, Dinah (Tel Aviv)

160 Retinitis Pigmentosa and Other Dystrophies
Sahel, José; Bonnel, Sébastien; Mrejen, Sarah; Paques, Michel (Paris)

168 Macular Edema of Choroidal Origin
Soubrane, Gisèle (Créteil, Paris)

183 Miscellaneous
Creuzot-Garcher, Catherine (Dijon); Wolf, Sebastian (Bern)

199 Author Index
200 Subject Index
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Macular edema has for a long time been one of the most important issues in retinal pathologies, as damage to the macula has an immediate effect on central visual acuity and may substantially affect a patient’s quality of life.

For more than 40 years, clinicians have attempted to identify macular edema in its initial state and to define its various etiologies. Diagnosing macular edema with certitude at an early stage has proven difficult despite the progress in contact lens biomicroscopy.

Fluorescein angiography has been critical for detecting macular edema and currently remains the ‘gold standard’ for the diagnosis, identifying the characteristic stellar pattern of cystoid macular edema. Fluorescein angiography also provides a qualitative assessment of vascular leakage, which is essential for identifying treatable lesions. However, it is only since the use of laser photocoagulation that it became possible to offer an effective modality of treatment for macular edema, despite the destructive localized laser scars.

During the last decade, the clinical diagnosis of macular edema and its treatment have been greatly improved due to multiple and remarkable advances of modern imaging technologies, which allow recognition of the main etiologies of this complication. By correlating results from fluorescein angiography, optical coherence tomography, and especially spectral domain optical coherence tomography, fluid accumulation within and under the sensory retina can be confirmed and located. This fluid accumulation, frequently associated with subretinal fluid and serous retinal detachment, may not otherwise be clinically detected.

Moreover, spectral domain optical coherence tomography can characterize the presence and integrity of the external limiting membrane and the photoreceptor inner and outer segments, which is useful information for prognosis as well as a guide for treatment. The diagnosis of macular edema and its clinical forms is now based primarily on the correlation of these imaging techniques.

One of the most important innovations in the field of macular edema has been the advent of intravitreal drug delivery approaches for the treatment of posterior segment pathologies. These emerging modalities treat posterior eye disease or restore the permeability of the blood-retinal barrier by delivering drug compounds either systemically, locally, or intravitreally with anti-inflammatory or anti-vascular endothelial growth factor drugs.

Multicenter controlled clinical trials testing these new compounds as well as biologic delivery
systems and treatment strategies have already been completed or are currently under way. From this research, the care of macular edema will soon be more efficient and effective due to increased target specificity, noninvasive drug administration routes, and sustained-release compounds that will allow sufficient levels of therapeutic efficacy for longer durations.

*Macular Edema: A Practical Approach* describes the different patterns and etiologies of macular edema and the importance of preserving the photoreceptors at the early stage in order to retain central visual acuity. The book was designed to bring together the most recent data and evidence-based medicine while also including the multiple areas still unknown and debated.

*Macular Edema: A Practical Approach* presents the pathophysiological basis of macular edema and the different approaches of drug delivery to the posterior segment. Recommendations for treatment procedures or different therapies have been carefully analyzed and considered prior to inclusion.

The authors bring their personal experience and full teaching acumen to each chapter, culminating in a single book that brings to the forefront the importance of macular edema.

*Macular Edema: A Practical Approach* provides the ophthalmologist with a synthesis of knowledge to diagnose, determines the etiology, and offers viable treatment options for the benefit of all our patients.

*Gabriel Coscas*